

IN RE APPLICATION: DUNCAN W. McBRANCH ET AL.

GROUP ART UNIT: 1645

SERIAL NUMBER: 09/934,680

EXAMINER: UNASSIGNED

FILED: AUGUST 23, 2001

FOR: PEPTIDE NUCLEIC ACID BASED MOLECULAR SENSORS FOR NUCLEIC ACIDS

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. 1.97

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Applicant(s) wish(es) to disclose the following information.

REFERENCES

- Applicant(s) wish(es) to make of record the documents listed on the attached Form PTO-1449. Copies of the listed documents are attached, where required, as are either statements of relevancy or any readily available full or partial English translations of any non-English-language documents.

RELATED CASES

- Attached is a list of Applicant's(s') pending applications and issued patents which may be related to the present application. Copies of the documents, where required, are attached along with Form PTO-1449.

CERTIFICATION

The undersigned certifies that

- ☐ each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign or international patent office in a counterpart foreign or international application for the first time (to the knowledge of the undersigned, having made reasonable inquiry) not more than three months prior to the filing of this statement.
- ☐ no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign or international patent office in a counterpart foreign or international application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement.

BASIS FOR CONSIDERATION

This Information Disclosure Statement is filed:

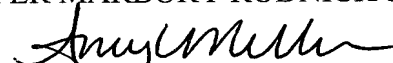
- ☐ without fee and within three months of the filing date of the application.
- ☐ without fee and within three months of the date of entry of the U.S. national stage.
- without fee and before the mailing date of a first Office Action on the merits (to the knowledge of the undersigned).
- ☐ without fee and with the appropriate certification above.
- ☐ without fee and with a new CPA application.
- ☐ without fee and with a Request for Continued Examination.
- ☐ with fee and before the mailing date of any of a Final Office Action, Notice of Allowance or an action that otherwise closes prosecution (to the knowledge of the undersigned).
- ☐ with fee, appropriate certification above, and before payment of the Issue Fee.

DEPOSIT ACCOUNT

- Please charge any additional fees for the papers being filed herewith and for which no check is enclosed herewith, or credit any overpayment to Deposit Account No. 50-1442.

Respectfully submitted,

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DOCKET NO.: 8971-017-27

LIST OF RELATED CASES

Docket Number	Serial or Patent Number	Filing or Issue Date	Status
8971-002-27 PROV	60/202,647	May 8, 2000	Abandoned
8971-003-27 PROV	60/226,902	August 23, 2000	Abandoned
8971-005-27 PROV	60/276,090	March 16, 2001	Abandoned
8971-008-27	09/850,074	May 8, 2001	Pending
8971-017-27*	09/934,680	August 23, 2001	Pending
8971-019-27 PROV	60/314,101	August 23, 2001	Pending

The cases listed on this Notice of Related Cases include cases which may contain information that is material to patentability. The listing of a case on this Notice should not be taken as an indication or admission that any information contained therein is material. Prior art for each case listed on this Notice may have been cited. **The files corresponding to the listed cases, which are available to the Examiner, may not have not been examined to ascertain the materiality of any prior art therein.** Accordingly, the Examiner is requested to review the file for each case listed on this Notice in order to assess the materiality of such prior art.

*Present application; listed for information.

Form PTO 1449 (Modified)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	DOCKET NO. 8971-017-27	SERIAL NO. 09/934,680
LIST OF REFERENCES CITED BY APPLICANT (Use Several Sheets if Necessary)		APPLICANT DUNCAN W. McBRANCH, ET AL.	
		FILING DATE AUGUST 23, 2001	GROUP ART UNIT 1645

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	4,950,587	8/21/90	ROBERTS ET AL.			
	AB						

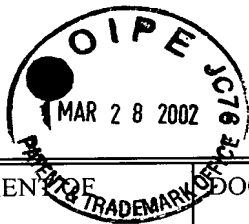
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

✓	AC	ZHOU ET AL., "METHODOLOGY FOR ENHANCING THE SENSITIVITY OF FLUORESCENT CHEMOSENSORS: ENERGY MIGRATION IN CONJUGATED POLYMERS", J. AM. CHEM. SOC., 117:7017-7018 (1995).
✓	AD	CHEN ET AL., "HIGHLY SENSITIVE BIOLOGICAL AND CHEMICAL SENSORS BASED ON REVERSIBLE FLUORESCENCE QUENCHING IN A CONJUGATED POLYMER", PROC. NATL. ACAD. SCI., 96:12287-12292 (1999).
✓	AE	WHITTEN ET AL., "FROM SUPERQUENCHING TO BIODETECTION: BUILDING SENSORS BASED ON FLUORESCENT POLYELECTROLYTES", MOLECULAR AND SUPRAMOLECULAR PHOTOCHEMISTRY, OPTICAL SENSORS AND SWITCHES, V. RAMAMURTHY AND K.S. SCHANZE, EDS., VOL. 7:189-208 (2001).
✓	AF	JONES ET AL., "SUPERQUENCHING AND ITS APPLICATIONS IN J-AGGREGATED CYANINE POLYMERS", LANGMUIR, 17:2568-2571 (2001).
✓	AG	JONES ET AL., "TUNING OF SUPERQUENCHING IN LAYERED AND MIXED FLUORESCENT POLYELECTROLYTES", J. AM. CHEM. SOC., 123:6726-6727 (2001).
✓	AH	LU ET AL., "SUPERQUENCHING IN CYANINE PENDANT POLY(L-LYSINE) DYES: DEPENDENCE ON MOLECULAR WEIGHT, SOLVENT, AND AGGREGATION", J. AM. CHEM. SOC., 124:3:483-488 (2002)
✓	AI	JONES ET AL., "BUILDING HIGHLY SENSITIVE DYE ASSEMBLIES FOR BIOSENSING FROM MOLECULAR BUILDING BLOCKS", PROC. NATL. ACAD. SCI., 96:26:14769-14772 (2001).
✓	AJ	NIELSEN ET AL., "SEQUENCE-SELECTIVE RECOGNITION OF DNA BY STRAND DISPLACEMENT WITH A THYMINE-SUBSTITUTED POLYAMIDE", SCIENCE, 254:1497-1500 (1991).
✓	AK	EGHOLM ET AL., "PNA HYBRIDIZES TO COMPLEMENT OLIGONUCLEOTIDES OBEYING THE WATSON-CRICK HYDROGEN BONDING RULES", NATURE, 365:566-568 (1993).
✓	AL	DEMIDOV ET AL., "STABILITY OF PEPTIDE NUCLEIC ACIDS IN HUMAN SERUM AND CELLULAR EXTRACTS", BIOCHEM. PHARMACOL., 48:1310-1313 (1994).
✓	AM	WITTUNG ET AL., "DIRECT OBSERVATION OF STRAND INVASION BY PEPTIDE NUCLEIC ACID (PNA) INTO DOUBLE-STRANDED DNA", J. AM. CHEM. SOC., 118:7049-7054 (1996).

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)			
✓	AN	CHERNY ET AL., "DNA UNWINDING UPON STRAND-DISPLACEMENT BINDING OF A THYMINE-SUBSTITUTED POLYAMIDE TO DOUBLE-STRANDED DNA", PROC. NATL. ACAD. SCI. USA, 90:1667-1670 (1993).	
✓	AO	EGHOLM ET AL., "EFFICIENT PH-INDEPENDENT SEQUENCE-SPECIFIC DNA BINDING BY PSEUDOISOCYTOSINE-CONTAINING BIS-PNA", NUCLEIC ACIDS RES., 23:2:217-222 (1995).	
✓	AP	GRIFFITH ET AL., "SINGLE AND BIS PEPTIDE NUCLEIC ACIDS AS TRIPLEXING AGENTS: BINDING AND STOICHIOMETRY", J. AM. CHEM. SOC., 117:831-832 (1995).	
✓	AQ	LOHSE ET AL., "DOUBLE DUPLEX INVASION BY PEPTIDE NUCLEIC ACID: A GENERAL PRINCIPLE FOR SEQUENCE-SPECIFIC TARGETING OF DOUBLE-STRANDED DNA", PROC. NATL. ACAD. SCI. USA, 96:21:11804-11808 (1999).	
✓	AR	DEMIDOV ET AL., "KINETICS AND MECHANISM OF POLYAMIDE ("PEPTIDE") NUCLEIC ACID BINDING TO DUPLEX DNA", PROC. NATL. ACAD. SCI. USA, 92:2637-2641 (1995).	
✓	AS	KUHN ET AL., "KINETIC SEQUENCE DISCRIMINATION OF CATIONIC BIS-PNAS UPON TARGETING OF DOUBLE-STRANDED DNA", NUCLEIC ACIDS RES., 26:2:582-587 (1998).	
✓	AT	MELPOLDER ET AL., "DYE-POLYMER/SOL-GEL COMPOSITES", CERAMIC TRANS., ADVANCED COMPOSITE MATERIALS, 19:287-293 (1991).	
✓	AU	PLACE ET AL., "STABILIZATION OF THE AGGREGATION OF CYANINE DYES AT THE MOLECULAR AND NANOSCOPIC LEVEL", LANGMUIR, 16:23: 9042-9048 (2000).	
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